



Figure 1

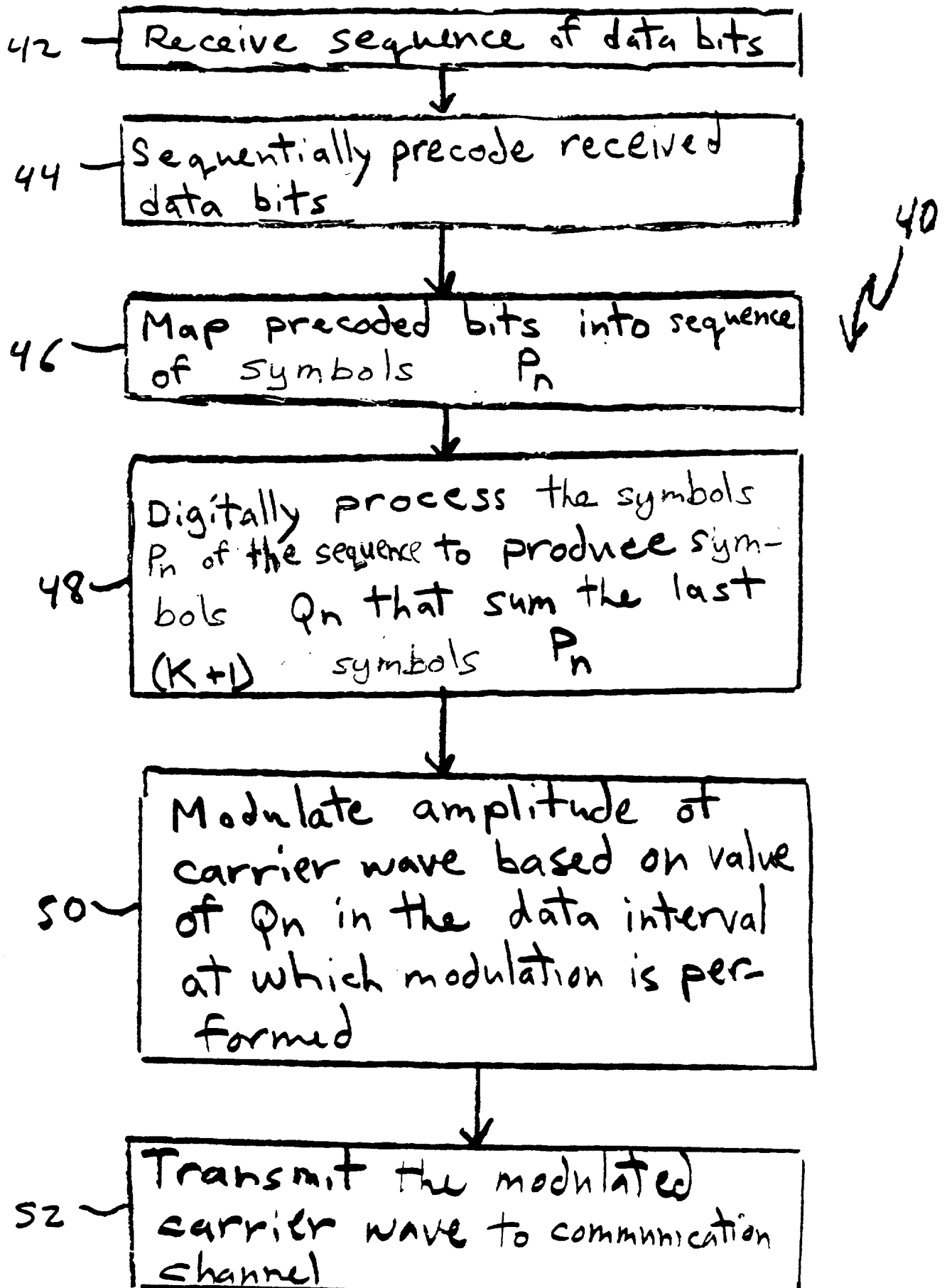


FIGURE 2

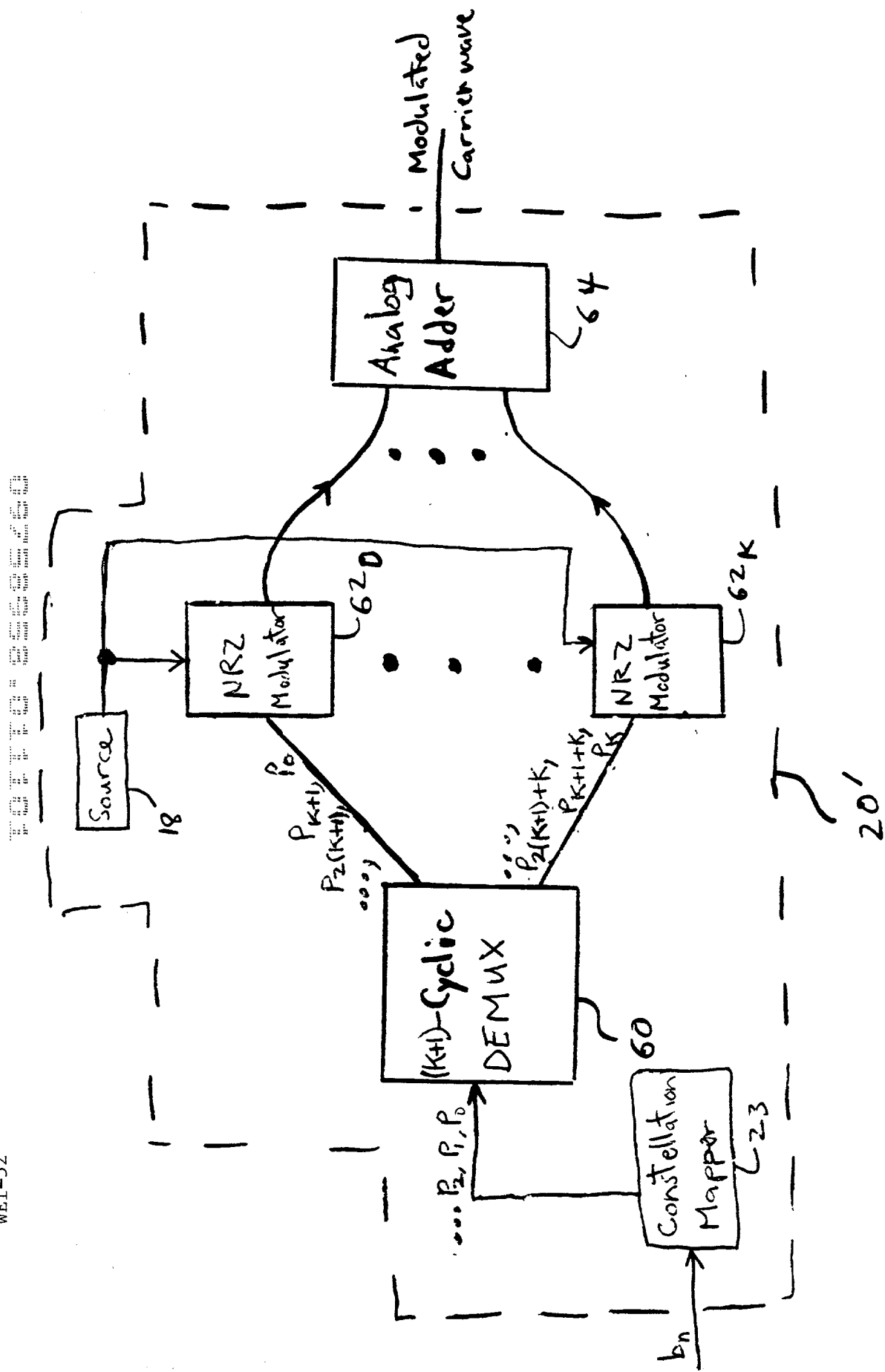


FIG. 3

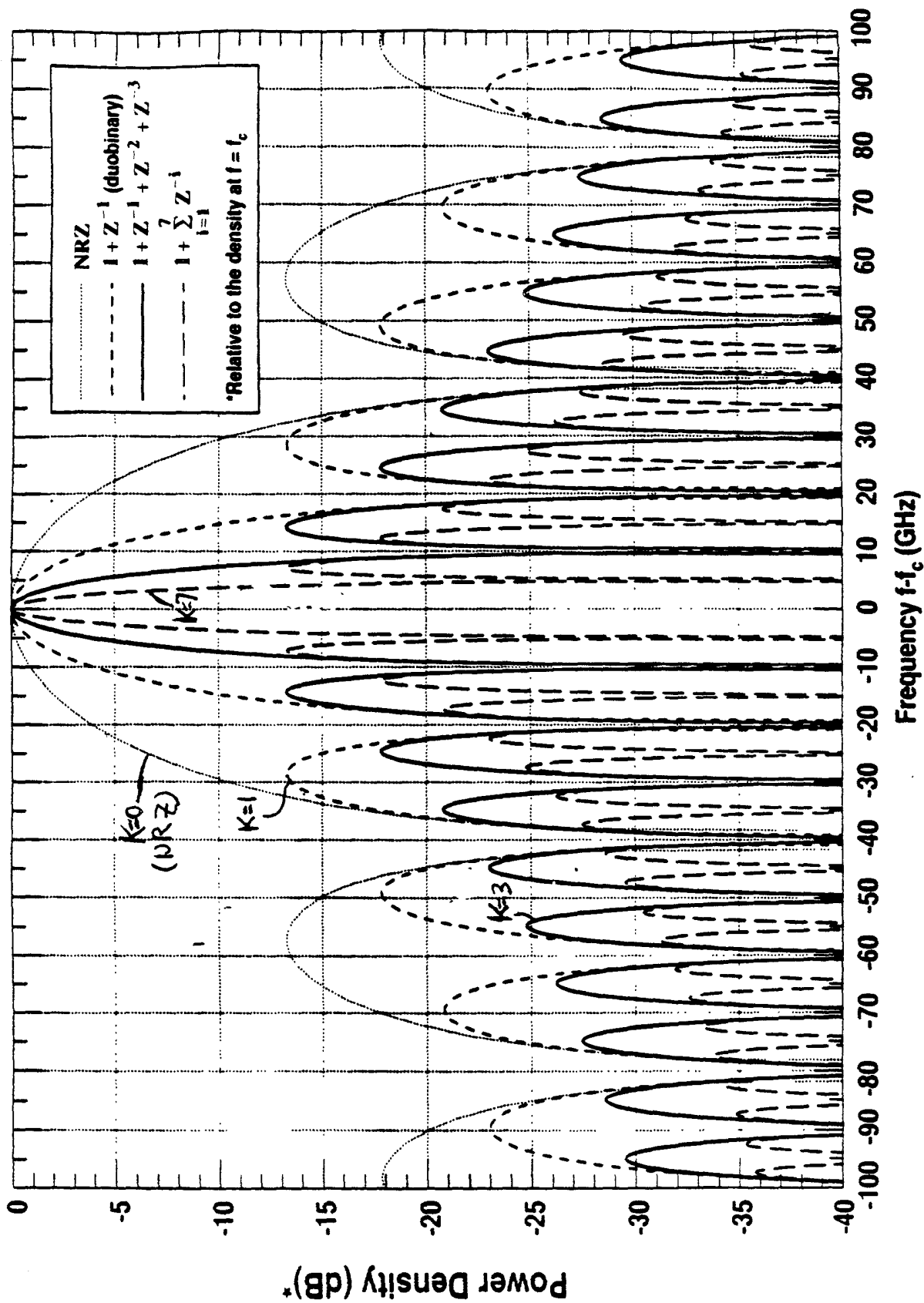
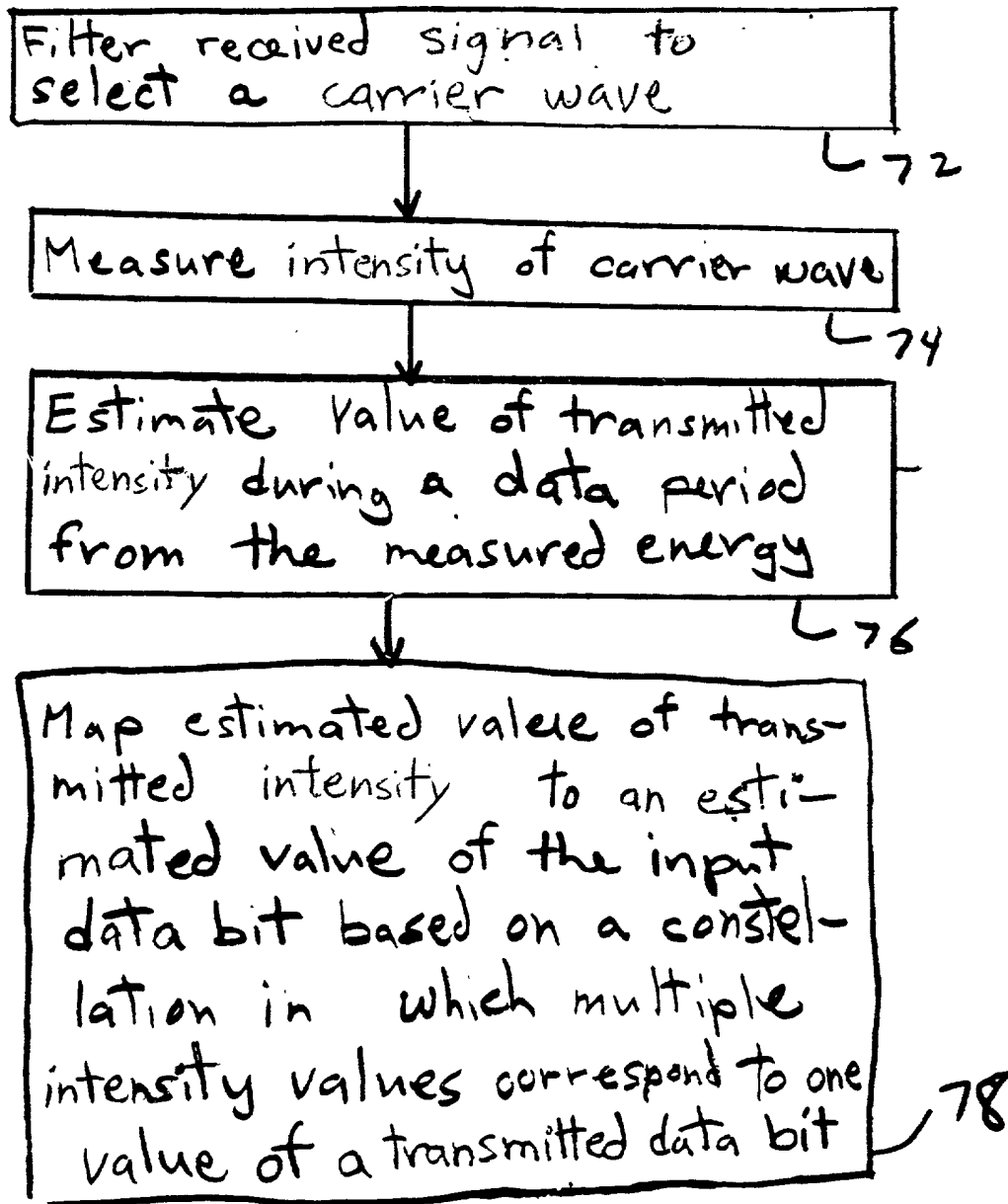


Figure 4



70

Figure 5

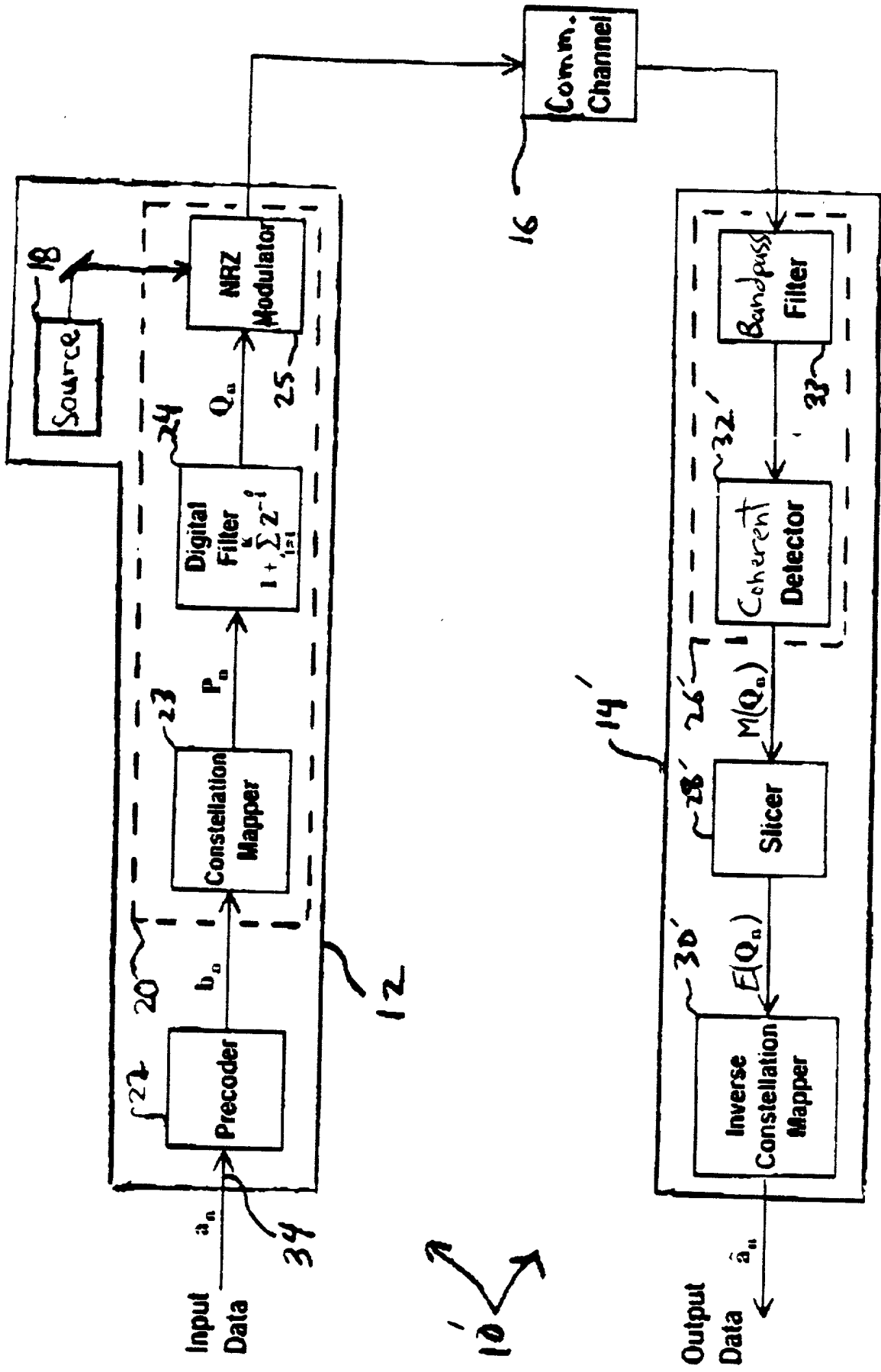


Figure 6

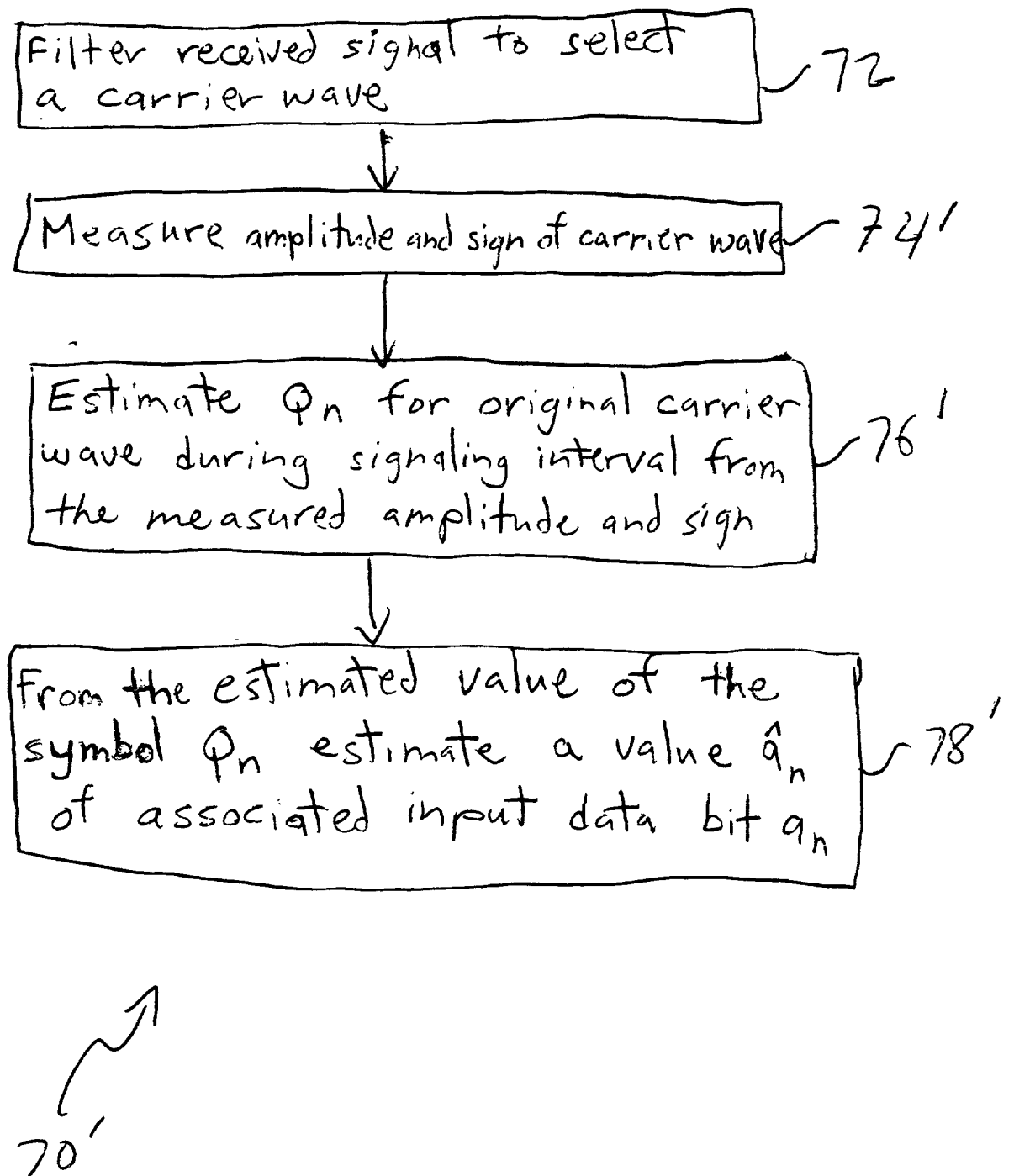


FIG. 7

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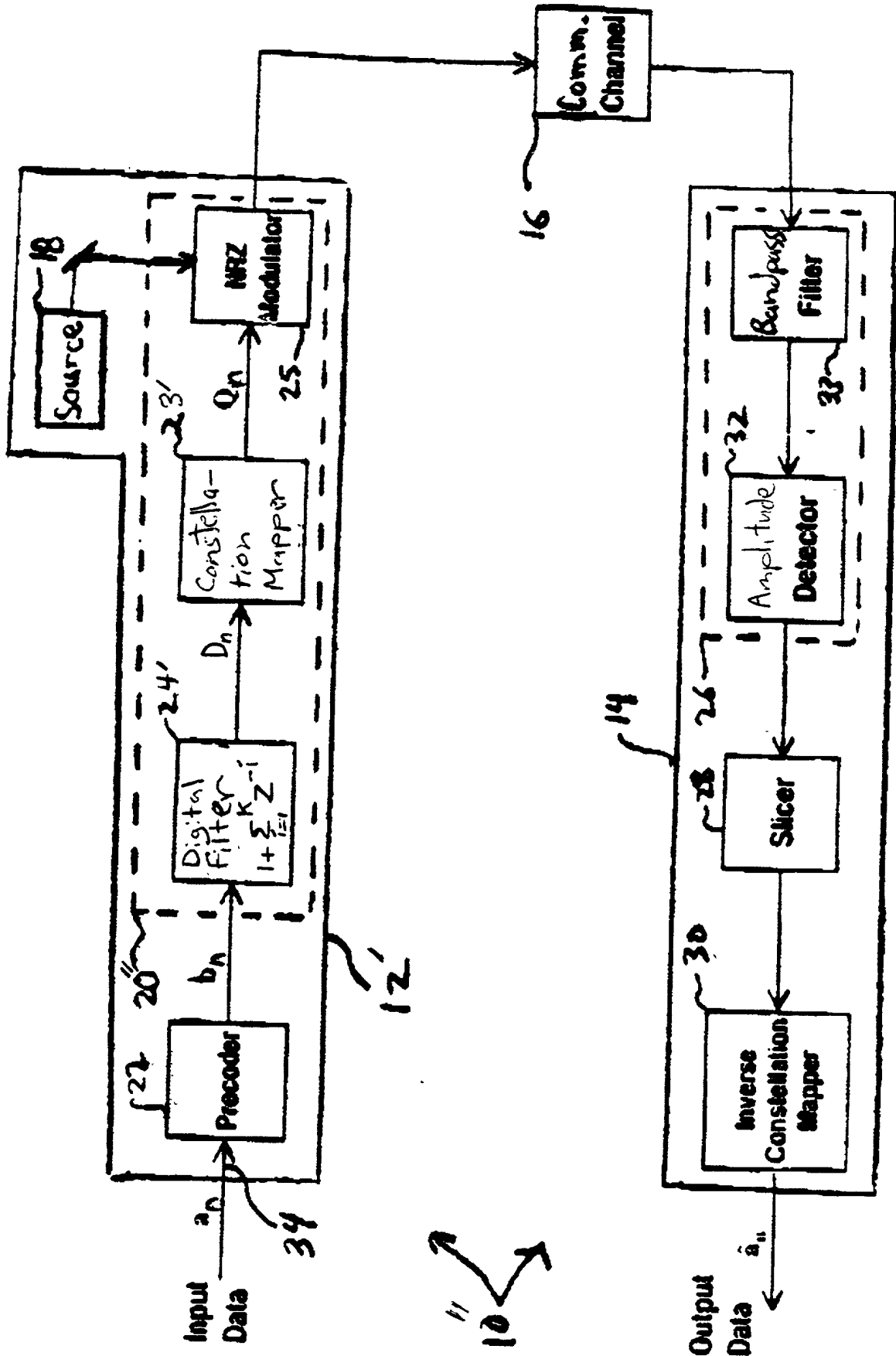


Figure 8

Digital Filter	Normalized Signal Bandwidth*	Loss in Receiver Sensitivity (dB)*	Number of Transmitter Signal Amplitudes Q_n	Number of Receiver Signal Amplitudes Q_n^2
$1 + Z^{-1}$ (duobinary)	$\frac{1}{2}$	0	3	2
$1 + Z^{-1} + Z^{-2} + Z^{-3}$	$\frac{1}{4}$	3	5	3
$1 + \sum_{i=1}^5 Z^{-i}$	$\frac{1}{6}$	4.8	7	4
$1 + \sum_{i=1}^7 Z^{-i}$	$\frac{1}{8}$	6	9	5
\vdots	\vdots	\vdots	\vdots	\vdots
$1 + \sum_{i=1}^{15} Z^{-i}$	$\frac{1}{16}$	9	17	9

*Relative to a baseline on/off NRZ modulation.

FIG. 9